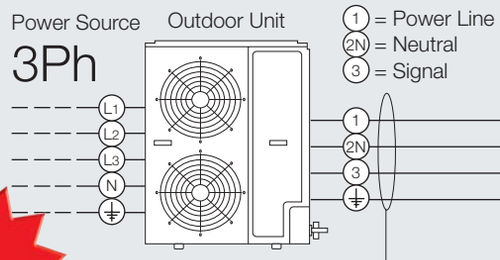
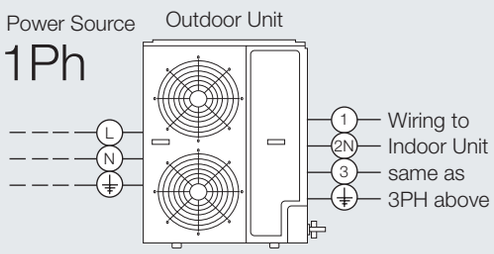
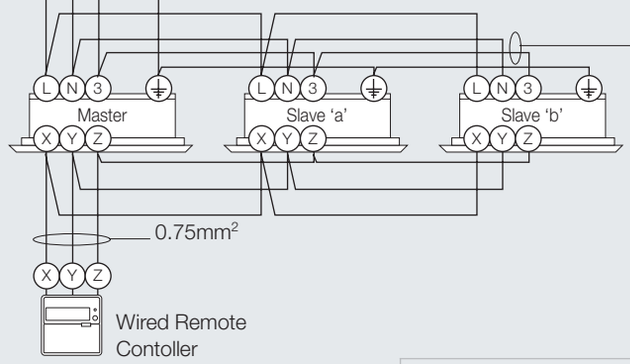
FDA Multi Systems - Technical Data

Wiring Arrangement and Master/Slave settings for Multi Systems



NEW
Single Phase
10,12 & 14kW
systems





Mains power is to the outdoor unit first.

Check the correct power supply 1ph or 3 ph is available on site. Check the correct outdoor units are ordered to suit 1ph or 3 ph.

The EHPAC series now includes 1ph outdoor units for models 402 (11.2kW), 502 (12.5kW) and 602 (14.0kW).

Signal wire (3) is low voltage. Isolator not required.

		Indoor unit			
Factory setting: Master		**Master unit**	**Slave 'a'**	**Slave 'b'**	**Slave 'c'**
Indoor board address switches	SW5-1	OFF	OFF	ON	ON
	SW5-2	OFF	ON	OFF	ON

Power Supplies & Operating Current – Outdoor Units

Outdoor Unit	Clg/Htg kW	Power Supply to Outdoor Unit	Operating Current (clg.)
FDCA301HEN	7.2/7.3	1ph 20A	9.8A
FDCA301HES	7.2/7.3	3ph 15A/ph	3.6A/ph
5A start current	on following	Inverter units	
FDCVA402HEN	11.2/11.2	1ph 20A	12.0A
FDCVA502HEN	14.0/16.0	1ph 25A	17.7A
FDCVA602HEN	14.8/16.8	1ph 30A	20.4A
FDCVA802HES	22.4/25.0	3ph 15A/ph	9.1A/ph
FDCVA1002HES	28.0/31.5	3ph 20A/ph	12.7A/ph

Indoor Units – Operating Current

Outdoor Unit	FDT	FDE	FDUR	FDK
151	0.3A	0.2A		0.2A
201	0.3A	0.2A	0.9A	0.2A
251	0.3A	0.4A	1.0A	0.2A
301	0.3A	0.4A	1.3A	0.5A
401	0.6A	0.5A	1.7A	
501	0.7A	0.6A	2.0A	

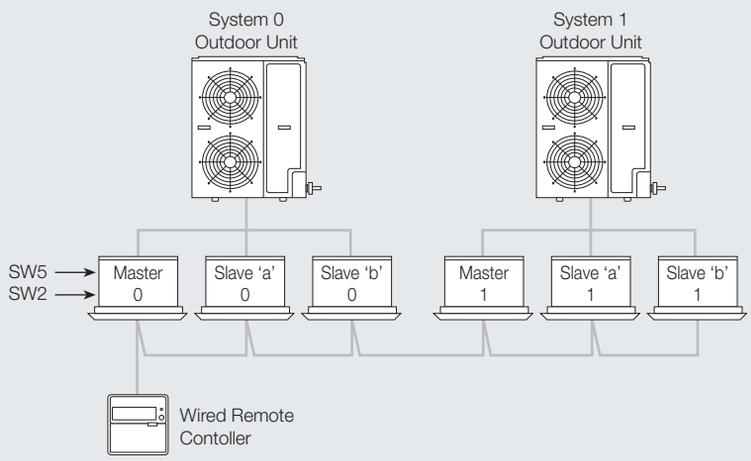
Indoor Unit Address

Indoor units connected to FDA Multi Systems are required to be addressed, to enable the controls to recognise which units are connected to each system.

Power supplies to indoor units are connected from the outdoor unit, with an additional SIGNAL wire connected to the MASTER indoor unit - which also has the remote control connected. The other indoor units must be addressed as Slave 'a' and Slave 'b' units - see bottom of page .

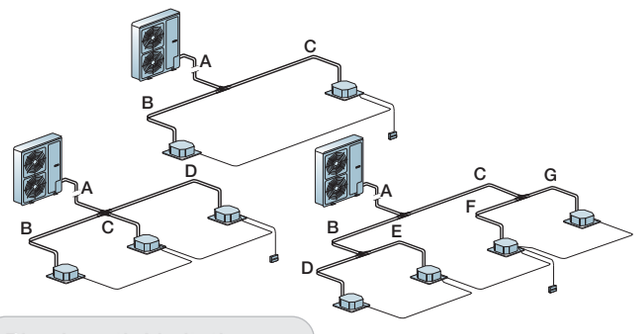
Group Control

Where Multi Systems are controlled on a Group arrangement (up to 16 systems) using a single remote controller, it is necessary to adjust SW2 so each individual Multi System has indoor units with the same address number, ie. 0-0-0,1-1-1, 2-2-2, etc.



The **Master/Slave** addresses must also be adjusted using SW5 - see page opposite.

FDA Multi Systems - Installation



Pipe Length Limitations

Height Difference (all systems)

Outdoor unit above max. height difference is 30m
Outdoor unit below max. height difference is 15m
Difference between indoor units max. height difference is 0.5m

Twin Systems 7.2kW to 14.8kW		
A = main piping, B = branch piping, C = branch piping		
A + B + C	Maximum is	50 metres
Difference between B & C	No more than	10 metres
B	Maximum is	20 metres
C	Maximum is	20 metres
Triple Systems 14.8kW		
A + B + C + D	Maximum is	50 metres
Difference between B & C or C & D	No more than	10 metres
B	Maximum is	20 metres
C	Maximum is	20 metres
D	Maximum is	20 metres
Quad Systems 14.3kW	Contact 3D for details	
Twin Systems 20.0 & 25.0 kW – FDCA802 & 1002		
Outdoor unit to furthest indoor unit	Maximum is	70 metres
Difference between B & C	no more than	10 metres
B	Maximum is	30 metres
C	Maximum is	30 metres
Triple Systems 20.0 & 25.0 kW – FDCA802 & 1002		
Outdoor unit to furthest indoor unit	Maximum is	70 metres
Difference between B & C & D	no more than	10 metres
B	Maximum is	30 metres
C	Maximum is	30 metres
D	Maximum is	30 metres
Quad Systems 20.0 & 25.0 kW – FDCA802 & 1002		
Outdoor unit to furthest indoor unit	Maximum is	70 metres
Difference between B & C	no more than	10 metres
Difference between D, E, F, G	no more than	10 metres
B + D	Maximum is	30 metres
B + E	Maximum is	30 metres
C + F	Maximum is	30 metres
C + G	Maximum is	30 metres

Refrigerant Pipe Sizes

Outdoor Unit	Clg/Htg kW	System Type	Pipe sizes o.d. (in) A	B	C(& D)	D,E,F,G
FDCA301HEN	7.2/7.3	TWIN	3/8 5/8	3/8 1/2	3/8 1/2	
FDCA301HES	7.2/7.3	TWIN	3/8 5/8	3/8 1/2	3/8 1/2	
INVERTER UNITS						
FDCVA402HEN	11.2/12.5	TWIN	3/8 5/8	3/8 1/2	3/8 1/2	
FDCVA502HEN	14.0/16.0	TWIN	3/8 5/8	3/8 5/8	3/8 5/8	
FDCVA602HEN	14.8/16.8	TWIN	3/8 5/8	3/8 5/8	3/8 5/8	
FDCVA602HEN	14.8/16.8	TRIPLE	3/8 5/8	3/8 1/2	3/8 1/2	
FDCVA802HEN	22.4/25.0	TWIN	3/8 7/8	3/8 5/8	3/8 5/8	
FDCVA802HES	22.4/25.0	TRIPLE	3/8 7/8	3/8 5/8	3/8 5/8	
FDCVA802HES	22.4/25.0	QUAD	3/8 7/8	3/8 5/8	3/8 5/8	3/8 1/2
FDCVA1002HES	28.0/31.5	TWIN	1/2 7/8	3/8 5/8	3/8 5/8	
FDCVA1002HES	28.0/31.5	TRIPLE	1/2 7/8	3/8 5/8	3/8 5/8*	
FDCVA1002HES	28.0/31.5	QUAD	1/2 7/8	3/8 5/8	3/8 5/8	3/8 5/8

*For 201 / 401 / 401 (indoors) Triple, use 3/8 & 1/2 for the 201 connection

Refrigerant Pipework must be installed within limitations detailed in the table below. Each system is supplied with the appropriate branch pipe. Pipe connections to the branch kits must be brazed and it is essential to use nitrogen purge while making the connections.

Outdoor Units for Multi Systems

FDCVA 402, 502, 602

FDCVA 802

FDCVA1002

Outdoor Unit Dimensions & Weights

mm	H	W	D	Kg
FDCA301	845	880	340	75
FDCVA402	845	970	370	61
FDCVA502	845	970	370	61
FDCVA602	845	970	370	63
FDCVA802	1300	970	370	122
FDCVA1002	1505	970	370	140